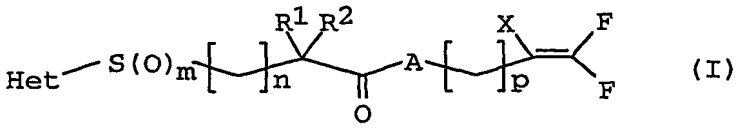
Claims:

1. Fluoroalkene derivatives of formula I



(I)

wherein the substituents and the indices have the following meanings:

A oxygen or NR^a;

R^a hydrogen; C_1-C_6-alkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, wherein the carbon atoms may be partially or fully halogenated;

X hydrogen, halogen; C_1-C_6-alkyl or phenyl wherein the alkyl and phenyl groups may be partially or fully halogenated;

R^1,R^2 each independently hydrogen, halogen, hydroxyl, cyano, nitro, mercapto, amino; C_1-C_6-alkyl, C_2-C_6-alkenyl, C_2-C_6-alkynyl, C_1-C_6-alkoxy, C_2-C_6-alkenyloxy, C_1-C_6-alkylthio, C_1-C_6-alkylamino, di-C_1-C_6-alkylamino, C_1-C_6-alkoxycarbonyl, C_1-C_6-alkylcarbonyloxy, wherein the aliphatic moieties in these substituents are unsubstituted, partially or fully halogenated or substituted by 1 to 3 substituents, each independently selected from R^b:

R^b cyano, nitro, halogen, hydroxy, mercapto, amino, carboxyl, aminocarbonyl, aminothiocarbonyl, alkyl, haloalkyl, alkenyl, alkenyloxy, alkynyl, alkoxy, haloalkoxy, alkylthio, alkylamino, dialkylamino, formyl, alkylcarbonyl, alkylsulfonyl, alkoxysulfonyl, alkylsulfonyloxy, alkoxycarbonyl, alkylcarbonyloxy, alkylaminocarbonyl, dialkylaminocarbonyl, alkylaminothiocarbonyl, dialkylaminothiocarbonyl, alkylenedioxy or cycloalkyl, wherein the alkyl groups in these radicals contain 1 to 6 carbon atoms and the abovementioned alkenyl or alkynyl groups in these radicals contain 2 to 6 carbon atoms, and wherein the carbon atoms in these groups may be partially or fully halogenated;

Het a monocyclic or bicyclic 3- to 10-membered heteroaromatic ring system containing 1 to 5 heteroatoms selected from oxygen, sulfur and nitrogen, unsubstituted, partially or

fully halogenated or substituted by 1 to 4 substituents, each independently selected from R^c:

R^c R^b, C_1-C_6-alkoxy-C_1-C_6-alkyl, C_1-C_6-alkylsulfinyl, C_1-C_6-alkylaminosulfonyl, di-C_1-C_6-alkylaminosulfonyl, C_1-C_6-alkylcarbonylamino, wherein the last mentioned 5 carbon chains and those defined under R^b are unsubstituted, partially or fully halogenated or substituted by from 1 to 3 cyano, hydroxy, mercapto, amino, C_1-C_6-alkylthio, C_1-C_6-alkylamino, di-C_1-C_6-alkylamino, C_1-C_6-alkoxycarbonyl, C_1-C_6-alkylcarbonyloxy or nitro groups;

cycloalkyl, cycloalkoxy, saturated or partially unsaturated heterocyclyl, heterocyclyloxy, wherein the cyclic systems contain 3 to 10 ring members, and the carbon atoms in the heterocycles may be substituted by 1 to 4 heteroatoms selected from nitrogen, sulfur and oxygen,

aryl, aryloxy, arylthio, aryl-C_1-C_6-alkoxy, aryl-C_1-C_6-alkyl, wherein the mono- or bicyclic ring systems contain 5 to 10 ring members,

hetaryl, hetaryloxy, hetarylthio, wherein the mono- or bicyclic ring systems contain 5 to 10 ring members wherein 1 to 3 carbon atoms may be substituted by heteroatoms selected from nitrogen, sulfur and oxygen,

and wherein the cyclic, aromatic and heteroaromatic systems may be partially or fully halogenated or may be substituted by from 1 to 3 groups selected from halogen, cyano, nitro, hydroxy; C_1-C_6-alkyl, C_1-C_6-alkoxy, C_1-C_6-alkylthio, C_1-C_6-alkylamino, C_1-C_6-alkylcarbonyl, C_1-C_6-alkoxycarbonyl, di-C_1-C_6-alkylamino, C_2-C_6-alkenyl, C_2-C_6-alkenyloxy and C_2-C_6-alkynyl, wherein the carbon atoms of these substituents may be partially or fully halogenated;

m 0, 1 or 2;
n 0, 1, 2, or 3;
p 0, 1, 2, 3, 4, 5, or 6.

2. Fluoroalkene derivatives of formula I according to claim 1 wherein the substituents and the indices have the following meanings:

A oxygen or NH;

R^1, R^2 each independently hydrogen, halogen; C_1-C_6-alkyl or phenyl wherein the alkyl and phenyl groups are unsubstituted, partially or fully halogenated.

3. Fluoroalkene derivatives of formula I according to claims 1 or 2 wherein A is oxygen.

4. Fluoroalkene derivatives of formula I according to claims 1 to 3 wherein X is hydrogen or fluorine.

5. Fluoroalkene derivatives of formula I according to claims 1 to 4 wherein X is fluorine.

6. Fluoroalkene derivatives of formula I according to claims 1 to 5 wherein R^1 and R^2 are each independently hydrogen, halogen, C_1-C_6-alkyl, or phenyl, which is unsubstituted, partially or fully halogenated.

7. Fluoroalkene derivatives of formula I according to claims 1 to 6 wherein Het is

5-membered hetaryl containing besides carbon atoms 1 to 3 nitrogen atoms and/or 1 sulfur or oxygen atom, unsubstituted or substituted by 1 or 2 R^c groups, wherein

R^c is cyano, nitro, halogen, hydroxy, mercapto, amino, carboxyl, aminocarbonyl, alkyl, haloalkyl, alkoxyalky, alkenyl, alkenyloxy, alkynyl, alkoxy, haloalkoxy, alkylthio, alkylamino, dialkylamino, formyl, alkylcarbonyl, alkylsulfonyl, alkoxycarbonyl, alkylcarbonyloxy, alkylaminocarbonyl, or dialkylaminocarbonyl, wherein the alkyl groups in these radicals contain 1 to 6 carbon atoms and the abovementioned alkenyl or alkynyl groups in these radicals contain 2 to 6 carbon atoms, and wherein the carbon atoms in these groups may be partially or fully halogenated, or 5- to 10-membered mono- or bicyclic aryl, or 5- to 10-membered mono-or bicyclic hetaryl, wherein 1 to 3 carbon atoms may be substituted by heteroatoms selected from nitrogen, sulfur and oxygen, wherein the aryl or hetaryl ring systems may be partially or fully halogenated or may be substituted by 1 to 3 groups

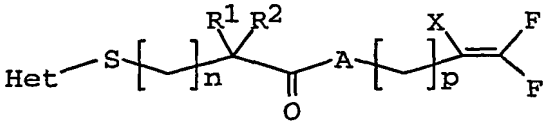
selected from halogen, cyano, nitro, hydroxy, C_1-C_6-alkyl, C_1-C_6-haloalkyl, C_1-C_6-alkoxy, or C_1-C_6-haloalkoxy; or

5-membered hetaryl containing besides carbon atoms 1 to 3 nitrogen atoms and/or 1 sulfur or oxygen atom wherein 2 adjacent ring members are bridged by a buta-1,3-dien-1,4-diyl group, wherein 1 or 2 carbon atoms may be substituted by nitrogen atoms, unsubstituted or substituted by 1 or 2 R^c groups, wherein

R^c is cyano, nitro, hydroxy, amino, alkyl, haloalkyl, alkoxyalkyl, alkenyl, alkenyloxy, alkoxy, haloalkoxy, alkylthio, alkylamino, dialkylamino, or alkylcarbonylamino, wherein the alkyl groups in these radicals contain 1 to 6 carbon atoms and the alkenyl groups in these radicals contain 2 to 6 carbon atoms and wherein the carbon atoms in these groups may be partially or fully halogenated.

8. Fluoroalkene derivatives of formula I according to claims 1 to 7 wherein m is an integer of 0 or 2, n is an integer of 0 and p is an integer of 2 or 4.

9. A process for the preparation of fluoroalkene derivatives of formula I.1,

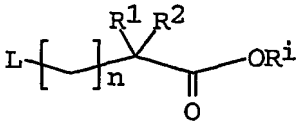


(I.1)

wherein A, X, R^1, R^2, Het, n and p are as defined in claim 1, characterized in that compounds of formula II

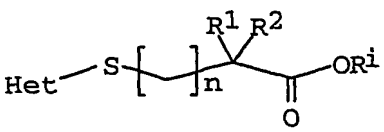
Het-SH (II)

wherein Het is as defined in claim 1, are reacted with compounds of formula III



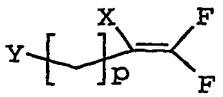
(III)

wherein R^1, R^2 and n are as defined in claim 1, L is a nucleophilic exchangeable leaving group, and R^i is hydrogen, C_1-C_6-alkyl or benzyl, in the presence of a base to give compounds of formula IV,



(IV)

wherein, if R^i is C_1-C_6-alkyl or benzyl, compounds IV are hydrolized to compounds IV wherein R^i is hydrogen, and compounds of formula IV wherein R^i is hydrogen are reacted with compounds of formula V,



(V)

wherein X and p are as defined in claim 1 and Y is a nucleophilically exchangeable leaving group or a group NHR^a, wherein R^a is as defined in claim 1, in the presence of an acid, a base, or an activating agent.

10. A method for the control of nematodes, insects or arachnids which comprises contacting said pests or their food supply, habitat or breeding ground with a pesticidally effective amount of a compound of formula I as defined in claims 1 to 8.

11. A method for the protection of plants from infestation or attack by nematodes, insects or arachnids which comprises applying to the plants or to the soil or the water in which they are growing a pesticidally effective amount of a compound of formula I as defined in claims 1 to 8.

12. A method for the control of harmful fungi which comprises treating the fungi or the materials, plants, the soil or the seed to be protected against fungal attack with an effective amount of a compound of the formula I as defined in claims 1 to 8.

13. A method for the control of unwanted plants which comprises treating these plants or their habitat with an effective amount of a compound of the formula I as defined in claims 1 to 8.

14. A method for treating, controlling, preventing or protecting warm-blooded animals or fish against infestation or infection by helminths, arachnids or arthrop endo- or ectoparasites which comprises orally, topically or parenterally administering or applying to said animal or fish a parasiticidally effective amount of a compound of formula I as defined in claims 1 to 8.

15. A method for the preparation of a composition for treating, controlling, preventing or protecting warm-blooded animals or fish against infestation or infection by helminths, arachnids

or arthrop endo- or ectoparasites which comprises a compound of formula I as defined in claims 1 to 8.

16. A composition for the control of nematodes, insects, arachnids, harmful fungi, unwanted plants, helminths, or arthrop endo- or ectoparasites which comprises an agronomically acceptable and/or physiologically tolerable carrier and a compound of formula I as defined in claims 1 to 8.